

### R E M A R K S

Careful review and examination of the subject application are noted and appreciated.

### SUPPORT FOR THE CLAIM AMENDMENTS

Support for the claim amendments may be found in the specification, for example, on page 10 lines 1-6 and FIG. 2 blocks 154 and 156, as originally filed. Furthermore, claims 11 and 17 have been brought into closer alignment with claim 1. Thus, no new matter has been added and no new issues are believed to be raised for the independent claims. Since the amendments should only require a cursory review, entry of the amendments for the purpose of an appeal is respectfully requested under MPEP §714.13 II. If the amendments are not entered, Applicants respectfully request a concise explanation per MPEP §714.13 III.

### CLAIM REJECTIONS UNDER 35 U.S.C. §102

The rejection of claims 1, 2, 4, 9, 11, 12, 14, 16, 17 and 20 under 35 U.S.C. §102(e) as being anticipated by Lyon et al. '917 (hereafter Lyon) has been obviated in part by appropriate amendment, is respectfully traversed in part, and should be withdrawn.

Lyon concerns a method and apparatus for RED (Random Early Detection) and enhancements (Title).

Claim 1 further provides a test circuit configured to present an identification signal to a sender of an additional data packet, the identification signal indicating that the additional data packet was discarded. In contrast, Lyon does not appear to expressly or inherently disclose that (i) a Drop/Tag block 40 plus a RED engine 38 (asserted similar to the claimed test circuit) generates an identification signal back to a source 32 (asserted similar to the claimed sender) or (ii) sends any signal indicating that a packet was dropped. Therefore, Lyon does not disclose or suggest a test circuit configured to present an identification signal to a sender of an additional data packet, the identification signal indicating that the additional data packet was discarded as presently claimed.

Furthermore, the "implicit signal" mentioned on page 3 of the Office Action appears to be a function of the TCP protocol rather than the RED engine 38 of Lyon. According to the *Encyclopedia of Networking, Electronic Edition* (see Appendix A) page 951, "The receive can *acknowledge* receipt of datagrams to provide assurance of delivery to the sender." Therefore, if the RED engine 38 of Lyon discards a packet, the sender on its own can determine that the packet has been lost somewhere due to the lack of an *acknowledge* packet from the intended receiver per the TCP protocol. Lyon appears to disclose a different structure than claim 1 for notifying a source of a lost packet. Therefore, Lyon

does not appear to disclose or suggest a test circuit configured to present an identification signal to a sender of an additional data packet as presently claimed. Claims 11 and 17 provide language similar to claim 1. As such, the claimed invention is fully patentable over the cited reference and the rejection should be withdrawn.

Claim 2 provides that the test circuit is configured to always discard the additional data packet without storing the additional data packet in the buffer in response to a number being at least as great as a second threshold. In contrast, Lyon states in column 2 lines 1-2, "If the average queue size exceeds the maximum threshold, all arriving packets are marked." Lyon further states in column 1 lines 61-66 that marking can be accomplished using an Explicit Forward Congestion Indication field in the ATM cells. Lyon appears to contemplate that additional packets **can be kept** even if the average queue depth is above the maximum threshold (asserted similar to the claimed second threshold). Therefore, Lyon does not appear to disclose or suggest a test circuit configured to **always discard** an additional data packet without storing the additional data packet in a buffer in response to a number being at least as great as a second threshold as presently claimed. Claim 12 provides language similar to claim 2. As such, claims 2 and 12 are fully patentable over the cited reference and the rejection should be withdrawn.

Claims 9, 16 and 20 depend from either independent claims 1 or 11, which are now believed to be allowable. Since the dependent claims contain all of the limitations of the independent claims, claims 9, 16 and 20 are fully patentable over the cited reference and the rejection should be withdrawn.

**CLAIM REJECTIONS UNDER 35 U.S.C. §103**

The rejection of claims 6-8 under 35 U.S.C. §103(a) as being unpatentable over Lyon in view of Skirmont '848 is respectfully traversed and should be withdrawn.

The rejection of claims 5, 10, 15, 18 and 19 under 35 U.S.C. §103(a) as being unpatentable over Lyon in view of Ikeda '853 is respectfully traversed and should be withdrawn.

The rejection of claims 21 and 22 under 35 U.S.C. §103(a) as being unpatentable over Lyon in view of Bechtolsheim '963 is respectfully traversed and should be withdrawn.

Lyon concerns a method and apparatus for RED (Random Early Detection) and enhancements (Title). Skirmont concerns system performance in a data network through queue management based on ingress rate monitoring (Title). Ikeda concerns a congestion control method in an ATM network based on threshold values of node queue length (Title). Bechtolsheim concerns a per-flow dynamic buffer management (Title).

Regarding claims 6-8, the Office Action has not provided clear and particular evidence of motivation to combine the references. In particular, the alleged motivation on page 4 of the Office Action "to improve the system performance by adjusting the packets dropping to meet different system requirements" does not appear to be credited to the references or knowledge generally available to one of ordinary skill in the art as required by MPEP §2142. Furthermore, the need for "adjusting the packets dropping to meet different system requirements" does not appear to be expressed by any of the references as a problem to be solved per *In re Huston*. Therefore, *prima facie* obviousness has not been established for lack of clear and particular evidence of motivation to combine the references. The Examiner is respectfully requested to either (i) clearly identify the source of the alleged motivation or (ii) withdraw the rejection for claims 6-8.

Regarding claims 5, 10, 15, 18 and 19, the Office Action has not provided clear and particular evidence of motivation to combine the references. In particular, the alleged motivations on page 5 of the Office Action (i) "to reduce unnecessary packet transmission from the source when the buffer is full" and (ii) "to utilize full packet transmission rate from the source in the absence of congestion" do not appear to be credited to the references or knowledge generally available to one of ordinary skill in the art as required by MPEP §2142. Furthermore, the need

to "reduce unnecessary packet transmission" and "utilize full packet transmission rate from the source" do not appear to be expressed by any of the references as problems to be solved per *In re Huston*. Therefore, *prima facie* obviousness has not been established for lack of clear and particular evidence of motivation to combine the references. The Examiner is respectfully requested to either (i) clearly identify the source of the alleged motivation or (ii) withdraw the rejection of claims 5, 10, 15, 18 and 19.

Regarding claims 21 and 22, the Office Action has not provided clear and particular evidence of motivation to combine the references. In particular, the alleged motivations on page 4 of the Office Action "to improve system performance when interfacing to several output ports" does not appear to be credited to the references or knowledge generally available to one of ordinary skill in the art as required by MPEP §2142. Furthermore, the need for "interfacing to several output ports" does not appear to be expressed by any of the references as problems to be solved per *In re Huston*. Therefore, *prima facie* obviousness has not been established for lack of clear and particular evidence of motivation to combine the references. The Examiner is respectfully requested to either (i) clearly identify the source of the alleged motivation or (ii) withdraw the rejection of claims 21 and 22.

Furthermore, one of ordinary skill in the art would appear to be unmotivated to make the proposed combination. In

particular, column 2, lines 26-33 of Bechtolsheim asserts that a port scheduler 50 provides a "statistically fair scheduling process" such that "one packet is read out of each queue, one queue at a time." In contrast, Lyon only appears to disclose a single queue 36. One of ordinary skill in the art would appear to be unmotivated to add the cost and complexity of the port scheduler 50 of Bechtolsheim to the switch 34 of Lyon where there is only a single queue 36 from which to read out the packets. Therefore, *prima facie* obviousness has not been established due a motivation NOT to combine the references.

#### IMPROPERLY EXPRESSED REJECTIONS

Applicant's representative respectfully requests that a new Office Action, or Notice of Allowance, be issued due to a lack of proper development for the rejections in the current Office Action. In particular, Applicant's representative traversed the asserted motivation in the last Office Action to combine the primary reference with Skirmont. MPEP §707.07(f) states:

Where the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and **answer the substance** of it.  
(Emphasis added)

However, the current Office Action repeats the asserted motivation word-for-word, but does not answer the substance of the traverse. Applicant should not have to endure the trouble and expense of filing an RCE or an appeal to learn why the Examiner believes

Applicant's traverse to be incorrect. As such, the current Office Action is incomplete and a new Office Action, or Notice of Allowance, should be issued.

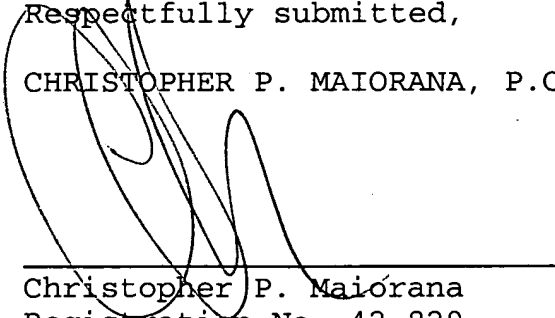
Accordingly, the present application is in condition for allowance. Early and favorable action by the Examiner is respectfully solicited.

The Examiner is respectfully invited to call the Applicant's representative at 586-498-0670 should it be deemed beneficial to further advance prosecution of the application.

If any additional fees are due, please charge Deposit Account No. 12-2252.

Respectfully submitted,

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Dated: May 6, 2005

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- The receiver can *acknowledge* receipt of datagrams to provide assurance of delivery to the sender. This acknowledgment scheme is used in a number of ways, as discussed in a moment.
- *Flow control* provides a way for two systems to actively cooperate in the transmission of data to prevent overflows and lost datagrams caused by fast senders. This feature lets transmitting systems quickly adapt to the traffic loads on the network and/or the available buffer size on the receiver.
- *Sequencing* is a technique for numbering datagrams so the receiver can put them back into the correct order and determine if datagrams are missing.
- A *checksumming* feature is used to ensure the integrity of packets.

## TCP Segments

A TCP segment is the official name for what is often loosely referred to as a packet (where a packet is some package of information). A segment is the actual entity that TCP uses to exchange data with its peers. The segment is what gets encapsulated into an IP datagram and transmitted across the network. Segments have a 20-byte header and a variable-length Data field. The fields of the TCP segment are described below and pictured in Figure T-4. Keep in mind that either station may send a segment that contains just header information and no data to provide the other system with connection information, such as an acknowledgment that a segment was received.

- **Source and destination port** Contains the port number of the sockets at the source and destination sides of the connection.
- **Sequence number** This field contains information for the receiver, which is a sequential number that identifies the data in the segment and where it belongs in the stream of data that has already been sent. The receiver can use the sequence number to reorder packets that have arrived out of order. It can also indicate that a segment is missing.
- **Acknowledgment number** This field is used by the receiver to indicate to the sender in a return message that it has received a previously sent packet. The number in this field is actually the sequence number for the next segment that the receiver expects. That number is calculated by incrementing the value in the Sequence Number field.
- **TCP header length** Specifies the length of the header.
- **Codes** This field contains the following bit codes, which serve as flags to indicate specific conditions:

**URG (urgent)** This bit is set to 1 if there is information in the Urgent Pointer field of the header.

**ACK (acknowledgment)** If ACK is set to 1, it indicates that the segment is part of an ongoing conversation and the number in the Acknowledgment Number field is valid. If this flag is set to 0 and SYN is set to 1, the segment is a request to establish a connection.